

- b) compacting the coated first powder or a mixture of an elemental metallic second powder and the coated first powder at approximately body temperature and under an applied pressure without adding a liquid sintering agent to form an alloy body in situ.
12. A process for preparing an intermetallic alloy body comprising the steps of:
- a) coating a first Sn powder with an oxide-replacing metal; and
- b) compacting the coated first Sn powder or a mixture of an elemental metallic second Ag powder and the coated first Sn powder without adding a liquid sintering agent to form the alloy body in situ.
13. The process according to claim 12 wherein an atomic ratio of Ag in said second powder to Sn in said coated first powder ranges from about 1:1 to 10:1.

14. A process for preparing an intermetallic alloy body comprising the steps of:
- a) coating a first powder of Ag_3Sn atomized, spherical particles having an equiaxial particle size of from about 0.5μ to about 50μ with an oxide-replacing metal; and
- b) compacting the coated first powder or a mixture of an elemental metallic second powder and the coated first powder without adding a liquid sintering agent to form an alloy body in situ.
15. The process according to claim 14 wherein the first powder before coating has an equiaxial particle size of from about $0.5 \mu\text{m}$ to about $50 \mu\text{m}$.
16. A process for compacting Ag and Sn powders at body temperature, in situ whereby the Ag and Sn powders are separately coated with an oxide-replacing metal.

* * * * *

20

25

30

35

40

45

50

55

60

65